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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,490	10/26/2001	Kobby Pick	10559-454001/P10771	3410
20985	7590	05/21/2008		
FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER PHU, PHUONG M	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 05/21/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/053,490	Applicant(s) PICK ET AL.	
	Examiner Phuong Phu	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 and 24-28 is/are allowed.
- 6) ☒ Claim(s) 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Response filed on 2/20/08. Accordingly, claims 1-28 are currently pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Sindhushayana et al (6,661,832), previously-cited.

-Regarding claim 19, Sindhushayana et al discloses a method (see figure 2) comprising:
procedure (comprising (78)) of receiving one or more output signals “s” from a detector
(72) (see col. 8, lines 45-60);

procedure (comprising (100, 94)) of determining a factor outputted from (100), (the factor considered here equivalent with the limitation “normalization factor”), for each of the one or more output signals for multiplications in a multiplier (102), each factor being independent of factors for previous output symbols (see col. 10, lines 11-33);

procedure (78, 102, 46) of multiplying, via (78, 102), each of the one or more output signals by the corresponding normalization factor to obtain a metric, (said metric considered here equivalent with the limitation “metric correction”); and providing the metric correction for each symbol toward a channel decoder (DECODER) (see col. 6, lines 49-55, col. 10, lines 26-32).

-Regarding claim 20, Sindhushayana et al teaches that decoding a transmission using the metric correction (see col. 6, lines 49-55, col. 10, lines 26-32).

Allowable Subject Matter

3. Claims 1-18 and 24-28 are allowed.
4. Claims 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed on 2/20/08 have been fully considered but they are not persuasive.

The Applicant mainly argues that (i) in Sindhushayana et al, each weight/factor value outputted from COMPLEX CONJUAGE (100) is not independent of weight factor values for previous output symbols since it is dependent on an interference energy ($N_{t,l}$) and a channel estimate ($\hat{\alpha}$), both of the interference energy and the channel estimated being dependent on previous output symbols; and (ii) Sindhushayana et al, therefore, does not teach step of “determining a normalization factor for each of the one or more output symbols, each normalization factor being independent of normalization factors for previous output symbols”, as claimed”.

-Regarding part (i), the examiner respectfully disagrees. See figure 2, for a current path (l), the interference energy ($N_{t,l}$) (outputted from (80)), is derived based on a total received energy (I_o) per chip outputted from (74), a constant (c) outputted from (84) and an output from a

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pilot filter (76); and the channel estimate ($\hat{\alpha}$), (outputted from (96)), is derived from the output from the pilot filter (76) and a constant (k) outputted from (98).

As for the interference energy ($N_{t,l}$):

In Sindhushayana et al, each instant output symbol (s) (outputted from (72) (see col. 8, lines 45-57)) of path (l) is derived from a corresponding I/Q signal (56) inputted to (70) which comprises an instant pilot burst of N chips (see col. 8, line 35) and the instant output symbol of M chips. Further, the total received energy (I_o) per chip is calculated based on an averaged of despread I/Q signal (outputted from (70) over an interval of N chips (see col. 8, lines 22-37), and i.e., the total received energy (I_o) per chip is calculated based only on a portion N chips in the total of instant the pilot burst of N chips and the instant output symbol of M chips included in the corresponding I/Q signal. Namely, the total received energy (I_o) per chip is calculated in independence of previous output symbol(s). Similarly, the output from a pilot filter (76) is calculated based only on a portion N/M chips of a recovered pilot burst (see col. 9, lines 1-7), and namely not depended on previous output symbol(s). And as such, the interference energy ($N_{t,l}$), corresponding to the instant output symbol, is not depended on previous output symbol(s).

As for the channel estimate ($\hat{\alpha}$):

Since the channel estimate ($\hat{\alpha}$), (outputted from (96)), is derived from the output from the pilot filter (76), which is not depended on previous output symbol(s), is neither depended on previous output symbol(s).

Therefore, in Sindhushayana et al, each weight/factor value outputted from COMPLEX CONJUAGE (100) is independent of weight factor values for previous output symbols since

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both of the interference energy ($N_{t,l}$) and the channel estimate ($\hat{\alpha}$) are not depended on previous output symbols.

-Regarding part (ii), based on the above rationale, the examiner, therefore, also disagrees. Sindhushayana et al teaches procedure (comprising (100, 94)) (see figure 2) of determining a factor outputted from (100), (the factor considered here equivalent with the limitation “normalization factor”), for each of the one or more output symbol signals (from (72)) for multiplications in a multiplier (102), each factor being independent of factors for previous output symbols (see col. 10, lines 11-33). This procedure is considered here equivalent with step of “determining a normalization factor for each of the one or more output symbols, each normalization factor being independent of normalization factors for previous output symbols”, as claimed.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuong Phu
Primary Examiner
Art Unit 2611

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